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SEMICONDUCTOR DEVICE (54) MANUFACTURE OF THIN FILM

(57) Abstract:

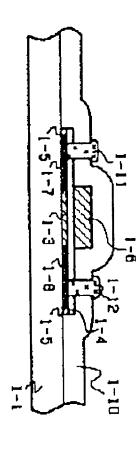
an insulating substrate, is heat-treated semiconductor thin film is formed on by a method wherein an amorphous consisting of a silicon crystal of a PURPOSE: To form a silicon film without taking out in the atmosphere interface between oxide films, which has a small interfacial level density, large crystal particle diameter and the

to solid-phase grow and moreover, a gate oxide film is formed and the thin film and the oxide film are patterned into an insular form in one photo process.

a plasma CVD device, mixed gas substrate is installed in a chamber of containing monosilane (SiH4) gas, grow the film 1-2 and after the gas is chamber is heated up to solid-phase substituted for vacuum or mert gas, according to glow discharge and after disilane (Si2H6) gas or trisilane CONSTITUTION: An insulating and the gate oxide film and the solidoxidized to form a gate oxide film 1-4 whereby the surface of the film 1-2 is and glow discharge is performed, exhausted, oxygen gas is introduced the temperature in the interior of the the gas is exhausted, the air is film 1-2 deposited by decomposition (Si3H8) gas is introduced, an a-Si:H oxidation method using the plasma photolithography method and are phase grown Si film are etched by a film is oxidized by a plasma surface of the solid-phase grown Si patterned into an insular form in one CVD device. photo process. Subsequently, the end

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